

REMARKS

Claims 9-13 are pending in the application. Claims 1-8 and 14-15 have been withdrawn. Claims 9 and 10 have been amended. Claims 16 and 17 are new claims.

Claim 9 has been amended to recite that the support rail is positioned to support the printed circuit board while the integrated circuit chip is mounted into the chip mounting receptacle, for example, as supported by Fig. 1 and the discussion thereof. Claim 9 is additionally amended to recite that the shim presents predetermined dimensions selected to relieve stress in overlying components during mounting of the integrated circuit chip by the action of the shim on the support surface. The predetermined dimensions of the shim are able to control stress-induced bending of the support surface under load within design limits, for example, as supported by Fig. 8 and described in paragraphs 35-37.

The Examiner has suggested a new title for the application, and the present amendment to page 1 of the Specification adopts the Examiner's recommendation.

Claims 9, 12 and 13 stand rejected under 35 U.S.C. §103 over United States Patent No. 6,282,093 to Goodwin. The '093 patent describes a mechanism that is emphasized by the Examiner's remarks concerning Figs. 17A and 17E thereof. A spring clip assembly 710 contains four posts and four centrally disposed spring arms (unnumbered in Fig. 17A, numeral 750 in Fig. 17E). The posts protrude upwardly through a variety of components, such as an insulator 720 and printed circuit board 70. A slotted collar 740 receives the posts and may be rotated to tighten the assembly because the slots are tapered for interaction with the four posts ('093 patent column 7, lines 1-25). The action of spring arms 750 locks the slotted collar 740 in place. The spring arms 750 are not designed or intended to reduce bolster bow by virtue of their spring action against the printed circuit board 70 as a matter of design limit; rather, the spring action locks the slotted collar in place when the slotted collar is rotated.

The method of attachment recited in claim 9 differs from the method of attachment shown in Goodwin '093. As described on page 1 of the present application, it will be appreciated that compressive forces of 200 to 300 pounds may be used to seat integrated circuit chips in a chip mounting receptacle. Unsupported spring arms like spring arms 750 of Goodwin '093 were never intended to withstand

this kind of loading in support of a printed circuit board and are intended only as a locking mechanism. Claim 9 has been amended to clarify the distinction by reciting the action of the shim on the support surface.

Although the Office chooses to define the spring arms as shims/supports residing between the insulator and the support surface (see page 4, second to last bullet item of the Office Action dated December 11, 2003), in reality Goodwin '093 shows nothing but free space underneath the spring arms, i.e., the spring arms 750 are interposed between the insulator 720 and free space. There is no support surface for spring arms 750 to act against and deform. Accordingly, Goodwin '093 cannot show both the shim and the support surface as is presently claimed in claim 9.

Claim 9 also distinguishes Goodwin '093 by reciting that the shim has predetermined dimensions which compensate for deformation of the support surface by action of the shim under load. The spring arms 750 of Goodwin '093 do not deform a support surface under load. These distinctions are neither taught nor suggested by the art of record.

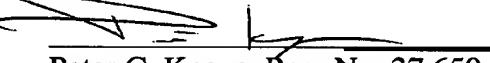
As to claims 12 and 13, we respectfully submit that the dimensions recited therein are very small tolerances that have been found to have significance in integrated circuit mounting operations, as described in the Background section of the present application. The spring arms of Goodwin '093 are of relatively weak design and are not provided with predetermined dimensions designed to compensate for the deformation under load that may be achieved by use of the support surface and shim. As to the inherency of these limitations, we respectfully disagree that the claimed dimensions are inherent to the design and method of Goodwin '093. This is because Goodwin '093 is completely silent and suggests nothing as to how the spring arms 750 might be designed for, or provide support within, the small tolerances of claims 12 and 13. Such design cannot be the case where Goodwin '093 uses the spring arms 750 for an entirely different purpose—one of a mere locking arrangement for the slotted collar 740. Therefore, the limitations of claims 12 and 13 are neither taught nor suggested by the art of record.

The Office indicates that claims 10 and 11 would be allowable if rewritten in independent form. New claims 16 and 17 restate the limitations of former claims 10 and 11 in independent form.

We submit that the amended claims are in allowable condition for reasons explained above, and earnestly solicit a Notice of Allowance.

Although Applicant believes there are no fees required, the Commissioner is hereby authorized to charge deposit account number 08-2025 for any additional fees necessary. Applicant's attorney welcomes the opportunity to discuss the case with the Examiner in the event that there are any questions or comments regarding the response or the application.

Respectfully submitted,

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